



PARUL UNIVERSITY
FACULTY OF ENGINEERING AND TECHNOLOGY
PARUL INSTITUTE OF TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY
TEACHING SCHEME - 2024-25
DIPLOMA IN BIOTECHNOLOGY

Semester - 1

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03602107	Applied Chemistry	3	3	-	-	20	-	20	60	-	40	-	100
03602108	Applied Chemistry Lab	1	-	2	-	-	50	-	-	0	-	20	50
03605101	Environmental Science	0	2	-	-	20	-	20	0	-	16	-	40
03606102	Introduction to IT Systems Lab	2	-	4	-	-	100	-	-	0	-	40	100
03630102	Introduction to Biotechnology	2	2	0	0	20	-	20	60	-	40	-	100
03630103	Fluid Mechanics	2	2	0	0	20	-	20	60	-	40	-	100
03630104	Fluid Mechanics Lab	1	0	2	0	-	50	-	-	0	-	20	50
03691101	Mathematics - I	3	2	-	1	20	-	20	60	-	40	-	100
03692154	Basic Physics Lab	1	-	2	-	-	50	-	-	0	-	20	50
03692155	Basic Physics	3	3	-	-	20	-	20	60	-	40	-	100
03693103	Communication Skills - I	1	1	-	-	-	-	100	-	-	40	-	100
Total		19	15	10	1								890

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical
Theory Passing % : 40 Practical Passing % : 40

Semester - 2

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03602151	Organic Chemistry	4	4	-	-	20	-	20	60	-	40	-	100
03602152	Organic Chemistry lab	1	-	2	-	-	50	-	-	0	-	20	50
03609154	Engineering Workshop Practice	2	-	4	-	-	100	-	-	0	-	40	100
03630152	Molecular Biology	3	3	0	0	20	-	20	60	-	40	-	100
03630153	Basic of Chemical Engineering Thermodynamics	3	3	0	0	20	-	20	60	-	40	-	100
03630156	Basics of Immunology	2	2	0	0	20	-	20	60	-	40	-	100
03630159	Fundamentals of Microbiology	2	2	0	0	20	-	20	60	-	40	-	100
03630160	Fundamentals of Microbiology Lab	1	0	2	0	-	20	-	-	30	-	20	50
03691151	Mathematics-II	4	3	-	1	20	-	20	60	-	40	-	100
03693153	Communication Skills -II	1	2	-	-	-	-	-	-	-	40	-	100
Total		23	19	8	1								900

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical
Theory Passing % : 40 Practical Passing % : 40

Semester - 3

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
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Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03600201	Entrepreneurship and Start-ups	1	1	-	-	20	-	20	60	-	40	-	100
03630201	Life science-I	4	4	0	0	20	-	20	60	-	40	-	100
03630206	Biochemical Calculations	4	4	0	0	20	-	20	60	-	40	-	100
03630207	Bioenergetics	4	4	0	0	20	-	20	60	-	40	-	100
03630209	Bioprocess Engineering	4	4	0	0	20	-	20	60	-	40	-	100
03630210	Bioprocess Engineering Lab	1	0	2	0	-	20	-	-	30	-	20	50
03693203	Professional Communication and Critical Thinking	1	1	-	-	-	-	100	-	-	40	-	100
	Total	19	18	2	0								650

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Theory Passing % : 40 Practical Passing % : 40

Semester - 4

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03600251	Essence of Indian Knowledge and Tradition	0	2	-	-	20	-	20	0	-	16	-	40
03630251	Cell Biology	3	3	0	0	20	-	20	60	-	40	-	100
03630253	Analytical Instruments for Biotechnology	3	3	0	0	20	-	20	60	-	40	-	100
03630254	Analytical Instruments for Biotechnology Lab	1	0	2	0	-	20	-	-	30	-	20	50
03630255	Fundamentals of Process Engineering	3	3	0	0	20	-	20	60	-	40	-	100
03630257	Basics of Food Processing	3	3	0	0	20	-	20	60	-	40	-	100
03630258	Basics of Food Processing Lab	1	0	2	0	-	20	-	-	30	-	20	50
03630259	Life Science-II	4	4	0	0	20	-	20	60	-	40	-	100
03630262	Minor Project	1	0	2	0	-	20	-	-	30	-	20	50
03693251	Employability Skills	1	1	-	-	-	-	100	-	-	40	-	100
	Total	20	19	6	0								790

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Theory Passing % : 40 Practical Passing % : 40

Semester - 5

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03630301	Biochemistry	4	4	0	0	20	-	20	60	-	40	-	100
03630302	Biochemistry Lab	1	0	2	0	-	20	-	-	30	-	20	50
03630303	Bioinformatics	4	4	0	0	20	-	20	60	-	40	-	100
03630304	Bioinformatics Lab	1	0	2	0	-	20	-	-	30	-	20	50
03630305	Environmental Biotechnology	3	3	0	0	20	-	20	60	-	40	-	100
03630307	Bioethics, IPR and Biosafety	3	3	0	0	20	-	20	60	-	40	-	100
03630309	Major Project-I	6	0	12	0	-	60	-	-	40	-	40	100
03630310	Summer Internship (2 Week After Sem - 4)	2	0	0	0	-	100	-	-	0	-	40	100
	Total	24	14	16	0								700

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Theory Passing % : 40 Practical Passing % : 40

Semester - 6

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	

03600351	Indian Constitution	0	2	-	-	20	-	20	0	-	16	-	40
03630351	Plant Tissue Culture	4	4	0	0	20	-	20	60	-	40	-	100
03630352	Plant Tissue Culture Lab	1	0	2	0	-	20	-	-	30	-	20	50
03630353	Genetic Engineering	4	4	0	0	20	-	20	60	-	40	-	100
03630354	Genetic Engineering Lab	1	0	2	0	-	20	-	-	30	-	20	50
03630356	Major Project-II	6	0	12	0	-	60	-	-	40	-	40	100
	Program Elective - I (Compulsory Subjects :1)	3	3	0	0	40	-	-	60	-	-	-	100
	Program Elective - II (Compulsory Subjects :1)	3	3	0	0	40	-	-	60	-	-	-	100
	Total	22	16	16	0								640

Semester - 6 Program Elective - I

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03630381	Metabolic Engineering	3	3	0	0	20	-	20	60	-	40	-	100
03630383	Entrepreneurship in Biotechnology	3	3	0	0	20	-	20	60	-	40	-	100

Semester - 6 Program Elective - II

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
03630385	Biomaterials and Implants	3	3	0	0	20	-	20	60	-	40	-	100
03630387	Genomics and Proteomics	3	3	0	0	20	-	20	60	-	40	-	100

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Theory Passing % : 40 Practical Passing % : 40

SEMESTER	CREDIT
1	19
2	23
3	19
4	20
5	24
6	22
TOTAL CREDIT	127